DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-020951
Date Inspected: 23-Feb-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 630
OSM Departure Time: 1500
Location: Job Site

CWI Name: See below

Inspected CWI report:	☑ Yes	☐ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: SAS OBG

Summary of Items Observed:

The Quality Assurance (QA) Inspector, Rick Bettencourt was on site at the job site between the times noted above. The QA Inspector was on site to randomly observe the in process welding and inspection of the weld joints identified as, 4W-pp27-W4-2&4, 6W-pp40-W3-4 & 3, 7E-pp52-E4-4, following items were observed:

4W-pp27-W4-2&4

The QA Inspector randomly observed the ABF welder Mike Jimenez performing carbon arc gouging and back grinding of the above identified weld joints. The QA inspector randomly observed the ABF welder grind the back gouged weld joints to bright metal. The QA Inspector randomly observed the back gouged weld joints and noted they appeared to be in general compliance with the contract requirements. The QA Inspector randomly observed the SE QC Inspector Gary Ersham perform magnetic particle testing of the back gouged weld joint and noted no relevant indications were present at the time of the testing. The QA Inspector randomly observed the ABF welder continue welding the in process lift lug hole restoration of the lifting lug hole identified as #2. The QA Inspector noted the weld joint was approximately 70% complete at the time of the SMAW 4G back weld. The QA Inspector randomly observed the ABF welder continue the SMAW cover pass. The QA Inspector noted the ABF welder completed #2 and moved over to #4. The QA Inspector randomly observed the SMAW parameters were 1/8” E7018 low hydrogen electrodes with 119 Amps. The QA Inspector noted the parameters appeared to be in general compliance with ABF-WPS-1070A R1. The QA Inspector randomly observed the ABF welder did complete the above identified lifting lug hole on this date. The QA Inspector noted the weld reinforcement was ground flush on the QA Inspectors shift. The QA Inspector observed the grinding did appear to comply with the contract requirements for the lifting lug hole identified as #2 & #4.

6W-pp40-W3-4 & 3

The QA Inspector randomly observed the ABF welder identified as Darcel Jackson and ABF helper begin fitting up the lifting lug deck insert identified above. The QA Inspector noted the direction of rolling was stamped with a low stress stamp in the center of the insert plate, so no grinding or welding would mask or deface the identifying marking. The QA Inspector randomly observed the bevel angle to be 45°. The QA Inspector noted the surface of the bevel appeared to be a machined surface with bright shinny metal. The QA Inspector noted the ABF welder was utilizing a prefabricated round copper backing plate held in place with magnets. The QA Inspector noted the fit up was completed on the QA Inspectors shift and appeared to be in general compliance with the contract documents. The QA Inspector randomly observed the ABF welder begin the SMAW root pass. The QA Inspector randomly observed the SMAW parameters were 5/32" E7018 low hydrogen electrodes with 195 Amps for the root pass. The QA Inspector noted the parameters appeared to be in general compliance with ABF-WPS-1070A R1. After the SMAW root pass was completed the QA Inspector randomly observed the welder switch to 3/16" E7018 low hydrogen electrodes with 275Amps and used through the completion of the weld. The QA Inspector randomly observed the ABF welder did complete the above identified lifting lug hole on the QA Inspectors shift. It was noted the ABF welder did not remove the weld reinforcement of the QA Inspectors shift.

7E-pp52-E4-4

The QA Inspector randomly observed the ABF welder Jason Collins had completed the back weld and grinding of the above identified lifting lug hole. The QA Inspector noted the completed weld joint had not yet been accepted by SE QC. The QA Inspector observed the grinding did not appear to comply with the contract requirements. The QA Inspector observed and noted the direction of the grinding marks was visible and did run parallel with the longitudinal axis of the bridge. In addition the weld reinforcement appeared to have approximately 2.3mm-3mm of weld remaining in some areas of the weld joint. The QA Inspector noted the weld is new to the job site and may not know the requirements of the lifting lug hole welding. The QA Inspector informed the welder of the requirements of the grinding (see summary of conversations).

Summary of Conversations:

The QA Inspector was informed by the ABF WQCM Jim Bowers, that the R4 being performed at 7E/8E-A2 was ground thru the deck. Mr. Bowers informed the QA Inspector that the root pass of the initial repair during the R4 had a linear indication in the root pass and was removed by grinding. During the grinding process the ABF welder ground thru the deck. Mr. Bowers elaborated the ABF welder utilized copper backing which is approved per WPS 1003 and was repaired and completed from the top side of the deck plate.

The QA Inspector informed the ABF welder Jason Collins the reinforcement must be ground to within 1mm of flush with the top deck base material. In addition the QA Inspector informed the welder the direction of the grinding must be in parallel to longitudinal axis of the bridge or in other words the QA Inspector pointed in the direction the grinding marks needed to be. The QA Inspector informed the welder if a flapper or sanding disc is used, the final finish meets the requirements for surface roughness and the grinding direction is irrelevant. The QA Inspector went on to inform the welder no direction was being given on behalf of the QA Inspector, rather just for information and he should consult with his foreman or SE QC.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or

remedial efforts please contact Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Bettencourt,Rick	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer